

SECRET

25X1

ATTACHMENT TO:

25X1

MEMORANDUM FOR: Chief, Technical Services Group, NPIC
ATTENTION : Chief, Technical Operations Staff, TSG/NPIC
SUBJECT : Monthly Report for October 1972

A. SIGNIFICANT ITEMS OF INTEREST FOR OCTOBER 1972:

1. Imagery Interpretation Research Program [] The FY-72

25X1

[] contract was extended at no additional cost to 15 December in order to complete the Search Improvement Program and the human factors and operational evaluations of the Search and Scan PI Station.

25X1

a. A change-in-scope to the FY-72 [] contract provides for human factors support to a Color Evaluation Working Group program comparing the search function on color and B/W photography.

25X1

b. The PAR for the FY-73 [] reached the final compilation and editing stages.

25X1

c. The FY-71 Imagery Interpretation Program Evaluations were completed.

2. Narrowband Color Viewer Evaluation (In-house). Work began on a three month evaluation of the concept of narrowband illumination as applied to the exploitation of color photography.

3. Color Training Program (In-house). A two hour lecture on the psychophysics of color perception is currently under development. It is scheduled for presentation to IEG personnel in late November.

25X1

NRO review(s) completed.

Declass Review by NIMA/DOD

25X1

SECRET

SECRET

ATTACHMENT TO:

SUBJECT: Monthly Report for October 1972

4. TID Engineering Support [] The TID was set up in Room 2N-147 and restored to operating condition. However, inadequate air conditioning prevents successful use of the TID in the new room. Logistics has been requested on two occasions to correct this condition.

5. Diagnostic Computer Program [] Debugging of the maintenance program was completed and the calibration program resolved. Acceptance tests on both were successfully completed on 6 October 1972.

6. Color Simulation Photography [] The final photography was processed and appears satisfactory for use as stimulus material for the Color Difference and Colorimetric Image Correction Program. It will be delivered in mid-November.

7. Color Equipment Investigation Program [] The final report of the Microcolorimetry Research Study was received and will be distributed.

8. Dry Silver [] visited [] [] for an extensive briefing on the status of all dry silver materials, equipment, and projects. The main purpose of the visit was to collect information for the Dry Silver Implementation Plan being worked on [] Highlights of the briefing included: (1) Dry Silver [] is equal in resolution to [] duplicating film; (2) several dry silver film and paper products are in full commercial

2
SECRET

SECRET

ATTACHMENT TO:

SUBJECT: Monthly Report for October 1972

production and plants at locations [] have been certified; and (3) several Navy and Air Force projects are underway for utilization of dry silver in the tactical environment. Full details of the briefing will be covered in a separate trip report []

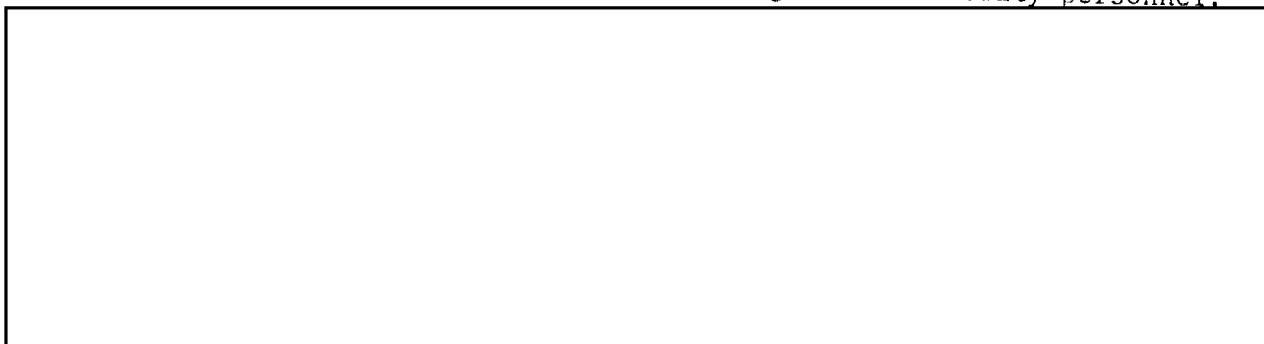
9. Interference Contrast Preparations to Enhance Surface-Relief Images

[] A final work order report on this process was received []
The technique involves treatment of a film to provide viewing of film surface relief with an ordinary microscope and reflected light. Additional detail was obtained in areas of high film density. A follow-on work order with improved methods and work with normal images is planned.

10. Image Science Research (Pending). The D.O. was written and submitted for review within RED.

11. Colorimetric Image Correction Program (In-house). [] is working on a program approach to provide an in-house capability for producing corrected color imagery.

12. [] Security (In-house). Research Branch personnel noticed codeword material in the trash receptacle for the [] machine in the parking lot on 13 October. The material was given to Security personnel.



SECRET

SECRET

25X1

ATTACHMENT TO:

25X1

SUBJECT: Monthly Report for October 1972

14. Closed-Circuit TV System (In-house). A project was initiated to install an experimental CCTV between IEG (PI area) and PHD to transmit imagery and mensuration requests. [REDACTED] (RED) is the principal engineer on the project working [REDACTED]

25X1

25X1

25X1

15. Image Storage & Distribution Study [REDACTED] A systems analysis of [REDACTED] storage and distribution is being initiated by a [REDACTED] team working [REDACTED]

25X1

25X1

25X1

25X1

25X1

17. Binocular Magnifier [REDACTED] reviewed the design and reports that it appears to be excellent. The final computer predictions on MTF are:

25X1

On Axis = .55 at 102 1/mm

0.7 Radius = .59 Tangential/.63 Radial at 78 1/mm

1.0 Radius = .36 Tangential/.73 Radial at 66 1/mm

All three positions will equal or exceed .10 MTF at 180 1/mm.

18. Automatic Focus Breadboard (Phase II) [REDACTED] The microscope mode was demonstrated to NPIC personnel at the contractor's plant.

25X1

25X1

SECRET

SECRET

25X1

ATTACHMENT TO:

25X1

SUBJECT: Monthly Report for October 1972

Further optimizing is still required for use with the Zoom [] Stereoscope. The contractor expects to complete this project in December 1972--two months ahead of schedule.

25X1

19. Scan & Search PI Station (SSPIS) [] The replacement lens, for the condenser lens damaged during installation of the SSPIS in July, was installed over the 28-29 October weekend without interrupting operational suitability tests.

25X1

20. Dry Silver Materials [] A report [] indicates that the latest negative acting material shows significant improvement over previous lots in resolution retention, printing speed, and image neutrality. The resolution readings were 148 l/mm (1.54:1 contrast) and 194 l/mm (2.18:1).

25X1

25X1

21. ON Inspection Table [] This table, which provides a clean environment in which to handle ON material, was developed [] and is being installed in the Film Library. Tacky rollers clean the emulsion and damage due to defects or tearing of the [] film is automatically detected.

25X1

25X1

25X1

25X1

22. Quick Stereo Objectives [] delivered these prototype lenses for test and evaluation on the Zoom [] rhomboids. They are fitted with a beam splitter and port which allows an operator to look down through the top of the objective to center it at a desired point. It should speed up the stereo alignment process considerably.

25X1

25X1

23. Rear Projection Device [] This attachment for the Zoom [] has been delivered [] This device will permit the investigation of

25X1

25X1

25X1

25X1

SECRET

SECRET

ATTACHMENT TO:

25X1

SUBJECT: Monthly Report for October 1972

small-screen scanning as an operational concept. It provides a high quality image on a four inch diameter screen at 4X magnification.

24. Vibration Improvement has completed this project and demonstrated a seven-fold reduction in vibration without interfering with the normal operation of the table. This improvement package will be demonstrated in NPIC during November. A retrofit package will be available at a cost of per table.

25. UV Projection Study The state-of-the-art review was completed during this month. The final report on the feasibility of developing an UV Projection viewer will be delivered in November.

26. DIA Light Table DI-8 and RED have completed the evaluation of the DIA version of the Light Table which has now been turned over to ESD for testing.

B. MEETINGS, BRIEFINGS, ETC.

1. Automated Exploitation Techniques On 26 October,

(SC&PB) discussed a possible agreement with personnel to perform research for TSG/RED on a no-cost basis.

2. High Resolution Color attended a meeting with representatives to discuss processing problems encountered during testing of the high-resolution, color, microfilm-type, transparency material under evaluation

SECRET

SECRET

ATTACHMENT TO:

25X1

SUBJECT: Monthly Report for October 1972

25X1

[redacted] As a result of this meeting [redacted] agreed to furnish us with more film and chemicals in order to make an operational test of this material.

25X1

3. TID. A demonstration of the TID was given to [redacted]

25X1

[redacted] NPIC/PS [redacted] Examples of output data were shown, and the operation of the TID in the general screening mode was demonstrated.

4. Color Control Cell. The following individuals were briefed on the Color Control Cell:

[redacted]

C. D.O.'s, PROPOSALS, AND PARS

1. The following proposals are being evaluated:

a. Dry Silver Reversal Material [redacted]

25X1

b. Improved Light Source for Printer [redacted]

25X1

c. Photointerpreter's Stage Reticle [redacted]

25X1

d. ICM Modifications [redacted]

e. Microscope Eyeshades Model II [redacted]

25X1

f. Improved Lamps for Aerial Film Duplication [redacted]

25X1

2. D.O.'s have been prepared on the following:

a. High Resolution Stereomicroscope

b. High Resolution Printer

25X1

SECRET

SECRET

ATTACHMENT TO:

25X1

25X1

SUBJECT: Monthly Report for October 1972

- c. PI CRT Station Evaluation
- d. Image Science Research Program

3. The following projects have been approved:

- a. [redacted] Enlarger [redacted]
- b. Advanced Correlator [redacted]
- c. Microscope Eyeshades [redacted]

25X1

25X1

25X1

D. PERSONNEL

25X1

E. SIGNIFICANT ITEMS FOR NOVEMBER:

Film Thickness Measurements. A requirement has been received from OSP for more film thickness measurements. The new set is much larger than the old and some new instrumentation will be required. The approach to this instrumentation is currently awaiting clarification of the requirement and its priority. Appropriate test gear will either be fabricated or purchased under contract.

25X1

25X1

Deputy Chief
Research & Engineering Division, TSG

SECRET